I. REMARKS/ARGUMENTS

The present application still contains 19 claims. No amendments to the claims have been made.

A. Summary of Rejections and Reply

1) Rejection of claims 1-5 under 35 USC 103

On page 2 of the Final Office Action, the Examiner has rejected claims 1-5 under 35 USC 103(a) as being "anticipated by" [sic][1] Schopfer U.S. Patent No. 5,249,226 (hereinafter referred to as "Schopfer") in view of Zhou U.S. Patent No. 6,178,241 (hereinafter referred to as "Zhou"). As set forth herein below, Applicant respectfully traverses this rejection and submits that claims 1-5 are in condition for allowance.

Independent claim 1

The Examiner's attention is directed to the following limitations of claim 1:

"A feed arrangement for a telephone subscriber loop having a plurality of conductors, comprising:
                            (...)
b) a control element operative for:
 i.   deriving a data element indicative of a rate of change of a current in the subscriber loop;
 ii.   processing the data element indicative of a rate of change of a current in the subscriber loop to detect a change in the number of CPEs active in the telephone subscriber loop;
 iii. in response to a change in the number of CPEs active in the telephone subscriber loop, regulating a magnitude of a current in the subscriber loop to a target value selected in a set of target values in dependence upon a number of CPEs active in the telephone subscriber loop."

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[1] It is assumed that the Examiner meant "unpatentable over". In any event, Applicant traverses the rejection.

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It is respectfully submitted that Schopfer in view of Zhou does not explicitly disclose or implicitly suggest the above-emphasized limitations of claim 1.

Specifically, as conceded by the Examiner on page 3 of the Final Office Action, Schopfer does not disclose either of (1) "deriving a data element indicative of a rate of change of a current in the subscriber loop"; and (2) "processing the data element indicative of a rate of change of a current in the subscriber loop to detect a change in the number of CPEs active in the telephone subscriber loop".

Additionally, it is respectfully submitted that Zhou does not disclose or suggest at least one of the above limitations of claim 1 already considered to be missing from Schopfer.

Firstly, Zhou neither discloses nor suggests "deriving a data element indicative of a rate of change of a current in the subscriber loop". Specifically, Zhou describes a switch hook detection module to determine the status of a switch hook in a subscriber loop (col. 11, lines 20-22). Referring to Figure 9, at each execution of decision operation 910, the switch hook detection module determines the status of the switch hook solely by using the *specific* value of a subscriber loop voltage V_{ab}, of a subscriber loop metallic current I_{ab}, and of a predetermined threshold impedance $Trip\_r$ for a given sampling instant (col. 11, lines 39-49). Clearly, the use of merely the specific value of the subscriber loop metallic current I_{ab} for a given sampling instant provides no indication of "a rate of change of a current in the subscriber loop".

It is also remarked that after making a switch hook status determination at decision operation 910, the switch hook detection module proceeds to either of an upper debounce operation or a lower debounce operation. The upper debounce operation "keeps track of the number of consecutive off-hook switch hook 406 determinations by operation 910 [in Figure 9]" (col. 12, lines 20-24). Similarly, the lower debounce operation "keeps track of the number of consecutive on-hook switch hook 406 determinations by operation 910 [in Figure 9]" (col. 12, lines 42-46). Thus, the upper

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and lower debounce operations simply count the number of times that the condition at decision operation 910 in Figure 9 has been satisfied or has not been satisfied. In other words, the upper and lower debounce operations are each a counter that solely produces a count of the number of times that a certain condition has been satisfied. It is respectfully submitted that this count is *not* indicative of a <u>rate of change</u> of the current as the current may very well *remain constant, increase or decrease* while still satisfying the certain condition. That is, at any given instant, the specific value of the count (for example, 23) is in no way indicative of the rate of change of the current. Similarly, the change between consecutive values of the count (for example, from 23 to 24) is also not indicative of the rate of change of the current.

In view of the foregoing, therefore, it is respectfully submitted that Zhou does not disclose or suggest a first limitation of claim 1, namely "deriving a data element indicative of a rate of change of a current in the subscriber loop."

Secondly, since Zhou neither discloses nor suggests a data element indicative of a rate of change of a current in the subscriber loop, Zhou cannot possibly be held to disclose or suggest any form of processing operation on such a data element. Consequently, Zhou cannot possibly be held to disclose or suggest a second limitation of claim 1, namely "processing the data element indicative of a rate of change of a current in the subscriber loop to detect a change in the number of CPEs active in the telephone subscriber loop".

In light of the above, it is respectfully submitted that there is at least one limitation of claim 1 which is neither taught nor suggested by the cited art, whether taken separately or in combination. Therefore, Applicant respectfully submits that at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) is not satisfied[2]. The Examiner is thus respectfully

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[2] For the Examiner to establish a *prima facie* case of obviousness, three criteria must be considered: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings, (2) there must be a reasonable expectation of success, and (3) the prior art references must teach or suggest all of the claim limitations. MPEP §§ 706.02(j), 2142 (8th ed.).

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requested to withdraw his rejection of claim 1. It is respectfully submitted that claim 1 is in condition for allowance.

Dependent claims 2-5

Claims 2-5 depend either directly or indirectly on claim 1 and therefore include all of the limitations of claim 1. Hence, for the same reasons as those set forth herein above in respect of claim 1, Applicant respectfully submits that claims 2-5 are in condition for allowance. The Examiner is thus respectfully requested to withdraw his rejection of claims 2-5.

2) Rejection of claims 6-8 under 35 USC 103

On page 5 of the Final Office Action, the Examiner has rejected claims 6-8 under 35 USC 103(a) as being unpatentable over Schopfer U.S. Patent No. 5,249,226 (hereinafter referred to as "Schopfer") and Zhou U.S. Patent No. 6,178,241 (hereinafter referred to as "Zhou") as applied to claims 1-5 above, and further in view of Jakab U.S. Patent No. 5,333,196 (hereinafter referred to as "Jakab"). As set forth herein below, Applicant respectfully traverses this rejection and submits that claims 6-8 are in condition for allowance.

Claims 6-8 depend either directly or indirectly on claim 1 and therefore include all of the limitations of claim 1, including those limitations already shown to be missing from the combination of Schopfer and Zhou, namely (1) "deriving a data element indicative of a rate of change of a current in the subscriber loop"; and (2) "processing the data element indicative of a rate of change of a current in the subscriber loop to detect a change in the number of CPEs active in the telephone subscriber loop".

In addition, it is respectfully submitted that the Examiner has not shown that Jakab discloses or suggests the missing limitations of claims 6-8. Specifically, the

Examiner has not successfully applied Jakab to show a teaching or suggestion of (1) "deriving a data element indicative of a rate of change of a current in the subscriber loop"; and (2) "processing the data element indicative of a rate of change of a current in the subscriber loop to detect a change in the number of CPEs active in the telephone subscriber loop".

In light of the above, it is respectfully submitted that there is at least one limitation of claims 6-8 which is neither taught nor suggested by the cited art, whether taken separately or in combination. Therefore, Applicant respectfully submits that there is at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) which has not been satisfied. The Examiner is thus respectfully requested to withdraw his rejection of claims 6-8. It is respectfully submitted that claims 6-8 are in condition for allowance.

3) Rejection of claims 9-17 under 35 USC 103

On page 6 of the Final Office Action, the Examiner has rejected claims 9-17 under 35 USC 103(a) as being unpatentable over Schopfer U.S. Patent No. 5,249,226 (hereinafter referred to as "Schopfer"), and further in view of Jakab U.S. Patent No. 5,333,196 (hereinafter referred to as "Jakab") and Zhou U.S. Patent No. 6,178,241 (hereinafter referred to as "Zhou"). As set forth herein below, Applicant respectfully traverses this rejection and submits that claims 9-17 are in condition for allowance.

Independent claim 9

The Examiner's attention is directed to the following limitations of claim 9:

"In combination:
a)   a power supply;
b)   a feed arrangement for a telephone subscriber loop having a plurality of conductors, including:
                                        (...)

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iii) a control element operative for:
  a. deriving a data element indicative of a rate of change of a current in the subscriber loop;
  b. processing the data element indicative of a rate of change of a current in the subscriber loop to detect a change in the number of CPEs active in the telephone subscriber loop;
  c. in response to a change in the number of CPEs active in the telephone subscriber loop, regulating a magnitude of a current in the subscriber loop to a target value selected in a set of target values in dependence upon a number of CPEs active in the telephone subscriber loop."

The above-emphasized limitations of claim 9 are similar to those appearing in claim 1, and for which it has already been shown that they are missing from the combination of Schopfer and Zhou.

Now, it is respectfully submitted that the Examiner has not shown that Jakab discloses or suggests the missing limitations of claim 9. Specifically, the Examiner has not successfully applied Jakab to show a teaching or suggestion of (1) "deriving a data element indicative of a rate of change of a current in the subscriber loop"; and (2) "processing the data element indicative of a rate of change of a current in the subscriber loop to detect a change in the number of CPEs active in the telephone subscriber loop".

In light of the above, it is respectfully submitted that there is at least one limitation of claim 9 which is neither taught nor suggested by the cited art, whether taken separately or in combination. Therefore, Applicant respectfully submits that there is at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) which has not been satisfied. The Examiner is thus respectfully requested to withdraw his rejection of claim 9. It is respectfully submitted that claim 9 is in condition for allowance.

Dependent claims 10-17

Claims 10-17 depend either directly or indirectly on claim 9 and therefore include all of the limitations of claim 9. Hence, for the same reasons as those set forth herein

above in respect of claim 9, Applicant respectfully submits that claims 10-17 are in condition for allowance. The Examiner is thus respectfully requested to withdraw his rejection of claims 10-17.

4) Rejection of claim 18 under 35 USC 103

On page 11 of the Final Office Action, the Examiner has rejected claim 18 under 35 USC 103(a) as being "anticipated" [sic][3] over Schopfer U.S. Patent No. 5,249,226 (hereinafter referred to as "Schopfer") in view of Zhou U.S. Patent No. 6,178,241 (hereinafter referred to as "Zhou"). As set forth herein below, Applicant respectfully traverses this rejection and submits that claim 18 is in condition for allowance.

The Examiner's attention is directed to the following limitations of claim 18:

> "A method for regulating the magnitude of current in a subscriber loop, comprising:
> (...)
> b) **deriving a data element indicative of a rate of change of a current in the subscriber loop;**
> c) **processing the data element indicative of a rate of change of a current in the subscriber loop to detect an increase in the number of CPEs active in the telephone subscriber loop;**
> d) in response to an increase in the number of CPEs active in the telephone subscriber loop, regulating the magnitude of the current to a second target value, higher than the first target value when at least one additional CPE becomes active in the subscriber loop such that the subscriber loop feeds at least two CPEs simultaneously."

The above-emphasized limitations of claim 18 are similar to those appearing in claim 1, and for which it has already been shown that they are missing from the combination of Schopfer and Zhou.

In light of the above, it is respectfully submitted that there is at least one limitation of claim 18 which is neither taught nor suggested by the cited art, whether taken separately or in combination. Therefore, Applicant respectfully submits that there is

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[3] It is assumed that the Examiner meant "unpatentable over". In any event, Applicant traverses the rejection.

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at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) which has not been satisfied. The Examiner is thus respectfully requested to withdraw his rejection of claim 18. It is respectfully submitted that claim 18 is in condition for allowance.

5) Rejection of claim 19 under 35 USC 103

On page 12 of the Final Office Action, the Examiner has rejected claim 19 under 35 USC 103(a) as being "anticipated" [*sic*][4] over Schopfer U.S. Patent No. 5,249,226 (hereinafter referred to as "Schopfer") in view of Zhou U.S. Patent No. 6,178,241 (hereinafter referred to as "Zhou"). As set forth herein below, Applicant respectfully traverses this rejection and submits that claim 19 is in condition for allowance.

The Examiner's attention is directed to the following limitations of claim 19:

"A feed arrangement for a telephone subscriber loop having a plurality of conductors, comprising:

(...)

b) control means for:
    i.   **deriving a data element indicative of a rate of change of a current in the subscriber loop;**
    ii.   **processing the data element indicative of a rate of change of a current in the subscriber loop to detect a change in the number of CPEs active in the telephone subscriber loop;**
    iii.   **in response to a change in the number of CPEs active in the telephone subscriber loop, regulating a magnitude of a current in the subscriber loop to a target value selected in a set of target values in dependence upon a number of CPEs active in the telephone subscriber loop.**"

The above-emphasized limitations of claim 18 are similar to those appearing in claim 1, and for which it has already been shown that they are missing from the combination of Schopfer and Zhou.

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[4] It is assumed that the Examiner meant "unpatentable over". In any event, Applicant traverses the rejection.

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In light of the above, it is respectfully submitted that there is at least one limitation of claim 19 which is neither taught nor suggested by the cited art, whether taken separately or in combination. Therefore, Applicant respectfully submits that at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) which has not been satisfied. The Examiner is thus respectfully requested to withdraw his rejection of claim 19. It is respectfully submitted that claim 19 is in condition for allowance.

II. CONCLUSION

In view of the foregoing, Applicant is of the view that claims 1-19 are in condition for allowance. Favorable reconsideration is requested. Early allowance of the Application is earnestly solicited.

If the claims of the application are not considered to be in full condition for allowance, for any reason, the Applicant respectfully requests the constructive assistance and suggestions of the Examiner in drafting one or more acceptable claims pursuant to MPEP 707.07(j) or in making constructive suggestions pursuant to MPEP 706.03 so that the application can be placed in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,

Sanro Zlobec
Agent for Applicant
Reg. No. 52,535

Date: June 16, 2004

SMART & BIGGAR
1000 de la Gauchetière St. West
Suite 3400
Montreal, Quebec H3B 4W5
Canada
Tel.: (514) 954-1500

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